

Application No.: 10/773,558

Docket No.: JCLA13083

**In the Claims:**

Please amend the claims as follows:

Claim 1. (currently amended) A cylindrical roller bearing comprising:

an inner ring having a raceway on an outer circumference thereof;

an outer ring having a raceway on an inner circumference thereof;

a plurality of cylindrical rollers disposed to roll freely between the raceway of the inner ring and the raceway of the outer ring;

flange portions being disposed on both sides respectively of the raceway of at least one of the inner ring and the outer ring; and

a recess groove disposed at a corner portion where a flange surface of at least one of the flange portions of both sides and the raceway meet, the flange surfaces being inclined at the same angle from a base end portion to a tip end portion thereof, wherein

a radial dimension  $h_3$  of chamfers formed on outer circumferential edge portions of the cylindrical rollers is set smaller than a radial height  $h_1$  from the raceway near the recess groove, curved portions being formed between the chamfers and end surfaces of the cylindrical rollers, and

the curved portions are regulated to be a shape wherein the following expressions are satisfied:

$$0.8 \leq h_2 / h_1$$

$$1 \leq \tan^{-1} [ \delta / (h_2 - h_3) ] (^\circ)$$

where  $h_1$  is a radial height from the raceway near the recess groove,  $h_2$  is a radial dimension from the roller surfaces of the cylindrical rollers to a boundary between the curved portions and

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the end surfaces,  $h_3$  is a radial dimension of the chamfers of the cylindrical rollers, and  $\delta$  is an axial dimension from a boundary between the chamfers and the curved portions to the end surfaces of the cylindrical rollers.

**Claim 2. (canceled)**

Claim 3. (original) The cylindrical roller bearing according to claim 1, wherein the curved portions are formed by processing wherein a flexible hone contacts in a slightly inclined state with respect to the end surfaces of the cylindrical rollers.

**Claim 4. (canceled)**

Claim 5. (previously presented) The cylindrical roller bearing according to claim 1, being incorporated in a main spindle assembly of a machine tool.

**Claim 6. (canceled)**

Claim 7. (previously presented) The cylindrical roller bearing according to claim 3, being incorporated in a main spindle assembly of a machine tool.

**Claim 8. (canceled)**